3 CHANGES TO THE DRAFT EIS FOR THE BANGOR HYDRO-ELECTRIC COMPANY NORTHEAST RELIABILITY INTERCONNECT

This chapter provides corrections to the text, tables, and figures of the *Draft Environmental Impact Statement for the Bangor Hydro-Electric Company Northeast Reliability Interconnect* (DOE/EIS-0372). It also provides clarifying information for the Draft EIS. The corrections and clarifying information have been provided to respond to comments received on the Draft EIS; to reflect changes in, or provide clarification of, interconnect design features (e.g., the decision to use just ball markers rather than ball markers and/or flappers) or procedures (e.g., preconstruction surveys, mitigation measures) that the applicant has further defined since the publication of the Draft EIS (Paquette 2005e,g; Faloon Saucier 2005); or to correct errors in the Draft EIS.

Some of the changes made to the Draft EIS are due to recent agreements made between the applicant and the USFWS and the MDIFW regarding bald eagle surveys. Additional changes relate to the applicant's decision to only use ball markers rather than ball markers and/or flappers to minimize the potential for bald eagles and other birds to collide with the NRI conductors or shield wires. This change was based on engineering considerations (e.g., flappers can cause abrasion, which can damage the shield wire and can create additional ice loading problems that could cause outages). The use of just ball markers has been proven to be reliable as a bird deterrent, and they are considered mechanically reliable and stable (Paquette 2005g). The remaining changes, made in response to comments received on the Draft EIS, include more detailed information on vernal pools and updated information on the Atlantic Salmon.

Page S-5/S-6 (Section S.3.1):

The last sentence of Section S.3.1 should be modified to read:

"The U.S. Department of the Interior's U.S. Fish and Wildlife Service (USFWS) and the U.S. Department of Commerce's National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) are cooperating agencies in DOE's EIS preparation. The USFWS must decide whether it concurs with DOE's conclusions regarding impacts on Federally listed threatened or endangered species as part of the Section 7 consultation process under the Endangered Species Act; this decision must be made before DOE issues a ROD."

Page S-29 (Section S.4.3.5):

The last sentence of the second paragraph on page S-29 should be changed to read: "It is expected that AC mitigation would be installed by M&N prior to the NRI being energized."

Page S-35 (Section S.5.5):

The following paragraph should be added before the first full paragraph on page S-35:

"Installation of AC mitigation for the M&N pipeline would require the disturbance of some wetland areas. On the basis of the mean percentage of the alternative routes that makes up wetlands (8.7%) and the area of AC mitigation required, approximately 7 acres (2 ha) would be disturbed for the Modified Consolidated Corridors, Consolidated Corridors, and the Previously Permitted Routes. Wetland disturbance for installation of AC mitigation for the MEPCO South Route would be about 5 acres (2 ha). AC mitigation installation would require excavation of soils immediately above the pipeline. These areas were previously disturbed during initial pipeline installation in 1999. They now support wetland emergent habitat that has developed since that time. Wetlands disturbed during trenching would be restored with the original topsoil to the original grade and seeded with annual grass. It is expected that these wetlands would recover within one or two growing seasons following installation of AC mitigation."

Page S-35 (Section S.5.5)

The following text should be deleted from the first full paragraph, fourth sentence on page S-35: "and/or flappers."

Page S-35 (Section S.5.6):

The start of the first sentence of Section S.5.6 should be changed to read: "Based on coordination and consultations that the BHE had with the Maine Historic Preservation Commission and Native American Tribes, no impacts …"

Page S-44 (Section S.5):

In Table S-4, the number of Atlantic salmon DPS waterbodies should be changed from 31, 32, 27, and 0 to 37, 38, 33, and 6, respectively.

Page 1-6 (Section 1.3.1):

The last sentence of Section 1.3.1 should be modified to read:

"The U.S. Department of the Interior's U.S. Fish and Wildlife Service (USFWS) and the U.S. Department of Commerce's National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) are cooperating agencies in DOE's EIS preparation. The USFWS, in particular, must decide on whether it concurs with DOE's conclusions regarding impacts on Federally listed threatened or endangered species."

Page 2-2 (Section 2.1.1):

The following paragraphs should be added to the end of Section 2.1.1 of the Draft EIS:

"In a Presidential permit proceeding, the applicant, rather than DOE, proposes the project and the EIS becomes an applicant-driven EIS. While DOE does have an action to take (i.e., grant or deny the requested permit amendment), the proposed action and the range of reasonable alternatives in the EIS should be consistent with the applicant's purpose and need and be practicable and able to be implemented by the applicant based on technical, economic, and practical considerations.

On the basis of the above, DOE has selected the Modified Consolidated Corridors Route as its preferred alternative because it is the applicant's preferred alternative and because the State of Maine has expressed its preference for that route by granting a permit for development of the NRI along that route."

Page 2-34 (Section 2.3.5):

The last sentence of page 2-34 should be changed to read: "It is expected that AC mitigation would be installed by M&N prior to the NRI being energized (Paquette 2005ee)."

Page 2-37 (Section 2.4.1):

The following bullet should be added after the first bullet in Section 2.4.1:

"• A cultural resource survey for archaeological sites and historic structures and features would be conducted for areas not previously surveyed. The results of the surveys would have to be approved by the State Historic Preservation Officer (SHPO) and, as appropriate, in consultation with Native American Tribes before the project would be constructed."

Page 2-37 (Section 2.4.1):

Section 2.4.1, fourth bullet, the first two sentences should read: "The applicant would perform aerial surveys after leaf fall, but before ROW clearing, in 2005, and again in the spring of 2006 and 2007 to identify any new bald eagle nests that might have become established within 0.25 mi (0.4 km) of the ROW (Paquette 2005pp). If new nests are identified, DOE would reinitiate consultation with the USFWS, and then BHE would consult with the Maine Department of Inland Fisheries and Wildlife (MDIFW) and the USFWS to determine appropriate mitigation for potential impacts."

Page 2-41 (Section 2.4.2):

The start of the next to last bullet on page 2-41 should be changed from: "Salmon stream buffers …" to "Buffers for the nine streams or rivers that contain salmon habitat or potential salmon habitat (see Section 3.5.4.1) …"

Page 2-42 (Section 2.4.2):

The first complete bullet on page 2-42 should be modified to read:

"No refueling or maintenance of equipment, including chain saws, would occur within any buffer areas, including those associated with streams in the Atlantic salmon Gulf of Maine distinct population segment (DPS) waterbodies."

Page 2-42 (Section 2.4.2):

The following bullet should be added at the end of Section 2.4.2:

"• If cultural resources are unexpectedly encountered, the applicant would need to have an on-site inspection by the SHPO to determine if avoidance or other mitigation of the resource would be required."

Page 2-43 (Section 2.4.4):

The following text should be deleted from Section 2.4.4, second bullet: "and/or flappers."

Page 2-43 (Section 2.4.4):

The following text should be changed in Section 2.4.4, third bullet: "Flappers would also be used …" to "Colored marker balls would also be used …"

Page 2-50 (Section 2.5.5):

The following text should be deleted from the first paragraph, fourth sentence of page 2-50: "and/or flappers."

Page 2-58 (Table 2.5-1, Section 2.5):

In Table 2.5-1, the number of Atlantic salmon DPS waterbodies should be changed from 31, 32, 27, and 0 to 37, 38, 33, and 6, respectively.

Page 2-62 (Section 2.5)

"Faloon Saucier (2005)" should be added to the sources for Table 2.5-1.

Page 3-21 (Section 3.5.2):

The following sentences should be added before the last sentence of Section 3.5.2:

"In addition, known Atlantic salmon spawning occurs in some of the rivers that would be crossed by the Modified Consolidated Corridors, Consolidated Corridors, or Previously Permitted Routes, including the Machias and Narraguagus Rivers. In the Narraguagus River,

mapped spawning habitat occurs from about 1.0 mi (1.6 km) south of Stud Mill Road and extends for several miles downstream. In the Machias River, mapped spawning habitat occurs both above the Second Machias Lake and below First Machias Lake. The proposed NRI would cross the Machias River between these lakes (Raddant 2005)."

Page 3-21 (Section 3.5.3):

The following paragraphs should be added following the first paragraph of Section 3.5.3:

"Vernal pools are seasonal wetland habitats that may serve as reproductive and nursery sites for a variety of amphibian species. They are also important for reptile and invertebrate species. These pools are formed by the accumulation of precipitation and storm water runoff in topographical depressions in the spring and/or fall, but are often dry in summer. As a result of their seasonal occurrence, these pools are fish-free habitats. Therefore, vernal pools provide a relatively predator-free habitat for amphibians to deposit eggs and for larvae to mature to adulthood. Adult amphibians may come from 1,000 ft (305 m) or more away to breed in these pools.

In Maine, some vernal pools are considered significant wildlife habitat (along with deer yards, waterfowl and wading bird habitats, and other habitats) (Calhoun et al. 2003). For a vernal pool to be considered a significant wildlife habitat it would have to be (1) used by a State-listed threatened or endangered species that commonly requires the use of a vernal pool for a critical portion of its life history, and/or (2) have documented breeding by one or more vernal pool indicator species. The vernal pool indicator species include the wood frog (*Rana sylvatica*), spotted salamander (*Ambystoma maculatum*), blue-spotted salamander (*A. laterale*), four-toed salamander (*Hemidactylium scutatum*), and fairy shrimp (Calhoun et al. 2003). Vernal pools were not identified during the macrolevel analysis of the alternative routes. However, 20 candidate vernal pools were identified along the Modified Consolidated Corridors Route during the wetland survey of that route conducted for the State permit application (Paquette 2005oo). Because vernal pools may form in any topographical depression, it could be assumed that vernal pools would also occur within the other alternative routes."

Page 3-22 (Section 3.5.4):

The following sentences should be added after the second sentence of the first paragraph of Section 3.5.4:

"Species of special concern are species that are rare in Maine, but not so rare as to be considered threatened or endangered. These species do not receive legal protection."

Page 3-23 (Section 3.5.4.1):

The second and third sentences of the first paragraph of Section 3.5.4.1 should be replaced with the following sentences:

"It encompasses all naturally reproducing remnant populations of Atlantic salmon from the Kennebec River downstream of the former Edwards Dam site, northward to the mouth of the St. Croix River. The Penobscot River and its tributaries are only included downstream from the site of the Bangor Dam. Watersheds that could be used by the Gulf of Maine DPS include the Sheepscot, Ducktrap, Narraguagus, Pleasant, Machias, East Machias, and Dennys Rivers and Cove Brook (Raddant 2005)."

Page 3-24 (Section 3.5.4.1):

In the second sentence of the first full paragraph on page 3-24, delete "its small spawning range in the rivers," and change the last sentence to read "The estimated total returns (i.e., adults returning from the sea for spawning) were 37 in 2002, 76 in 2003, and 82 in 2004 (Raddant 2005)."

Page 3-24 (Section 3.5.4.1):

In Table 3.5-8, the number of DPS waterbodies should be changed from 31, 32, 27, and 0 to 37, 38, 33, and 6, respectively. Also, "Faloon Saucier (2005)" should be added to the sources.

Page 4-22 (Section 4.5.2.1.4):

The following text should be deleted from the second paragraph, fourth sentence of page 4-22: "and/or flappers."

Page 4-25 (Section 4.5.2.1.7)

The following paragraph should be added after the second paragraph of Section 4.5.2.1.7:

"As discussed in Section 3.5.3, vernal pools are considered significant wildlife habitat. In small vernal pools located within forested areas that would be cleared for the ROW, predation upon amphibians and other vernal pool inhabitants may initially increase. However, once scrub-shrub habitat is established, the pool inhabitants would likely be more protected than in a vernal pool within a forested habitat with minimal ground cover. Also, the vernal pools within the ROW would not be impacted by subsequent developments, and amphibian species may experience less impact than occurs in vernal pools contained within areas subject to commercial timber harvesting."

Page 4-25 (Section 4.5.2.1.7):

The following paragraph should be added after the third paragraph of Section 4.5.2.1.7:

"Installation of AC mitigation for the M&N pipeline would require the disturbance of some wetland areas. On the basis of the mean percentage of the alternative routes that makes up wetlands (8.7%) and the area of AC mitigation required, approximately 7 acres (2 ha) would be disturbed for the Modified Consolidated Corridors, Consolidated Corridors, and the Previously Permitted Routes. Wetland disturbance for installation of AC mitigation for the MEPCO South

Route would be about 5 acres (2 ha). AC mitigation installation would require excavation of soils immediately above the pipeline. These areas were previously disturbed during initial pipeline installation in 1999. They now support wetland emergent habitat that has developed since that time. Wetlands disturbed during trenching would be restored with the original topsoil to the original grade and seeded with annual grass. It is expected that these wetlands would recover within one or two growing seasons following installation of AC mitigation."

Page 4-25 (Section 4.5.2.1.7):

The next-to-last sentence in the next-to-last paragraph of page 4-25 should be changed to read: "A number of wetlands of special significance, including vernal pools, would be located within the ROWs of the alternative routes (Section 3.5.3)."

Page 4-25 (Section 4.5.2.1.7):

The following sentences should be added to the end of the next-to-last paragraph of page 4-25: "While candidate vernal pools were identified within the Modified Consolidated Corridors Routes, support structures would not be located within them (Paquette 2005oo). In a similar manner, adjustments would be made in the placement of poles for the other alternative routes to avoid their placement in vernal pools."

Page 4-35 (Section 4.5.2.1.8):

The following text should be added to the first full paragraph of page 4-35 after the third sentence: "In addition, the applicant would perform aerial surveys after leaf fall, but before ROW clearing, in 2005, and again in the spring of 2006 and 2007 to identify any new bald eagle nests that might have become established within 0.25 mi (0.4 km) of the ROW (Paquette 2005pp). If any new nests are identified, DOE would reinitiate consultation with the USFWS, and then BHE would consult with the MDIFW and USFWS to determine appropriate mitigation for potential impacts."

Page 4-37 (Section 4.6.2.1.1):

In the first three paragraphs on page 4-37, the phase "a cultural resource survey would need to be conducted" should be changed to: "a cultural resource survey for both archaeological sites and historic structures and features would need to be conducted."

Page 4-37 (Section 4.6.2.1.2):

The start of the fourth sentence of Section 4.6.2.1.2 should be changed to: "These areas would likely require cultural resource surveys for both archaeological sites and historic structures and features before the new …"

Page 4-38 (Section 4.6.2.1.3):

In the last sentence of Section 4.6.2.1.3, "… a cultural survey may be necessary …" should be changed to "… a cultural resource survey for both archaeological sites and historic structures and features may be necessary …"

Page 4-38 (Section 4.6.2.1.4):

In the last sentence of Section 4.6.2.1.4, "… survey for cultural resources unless …" should be changed to "… survey for cultural resources, including both archaeological resources and historic structures and features unless …"

Page 5-2 (Section 5.5):

The following text should be deleted from the last sentence of Section 5.5: "and/or flappers."

Page 9-2 (Table 9-1):

Footnote b should be modified to read: "The applicant's original permit (#199010732) was issued on January 10, 1995, and expired on December 31, 2002. The applicant submitted its application for a new permit in May 2005 (BHE 2005)."

Page 11-3:

The following reference citation should be added: "Calhoun, A.J.K., et al., 2003, 'Evaluating Vernal Pools as a Basis for Conservation Strategies: A Maine Case Study,' *Wetlands* 23(1):70–81."

Page 11-5:

The following reference citation should be added:

"Faloon Saucier, D., 2005, 'Distinct Segment Population Waterbodies,' personal communication from Faloon Saucier (Devine Tarbell & Associates, Inc., Winterport, Maine) to W. Vinikour (Argonne National Laboratory, Argonne, Ill.), Oct. 29."

Page 11-13:

The following reference citations should be added:

"Paquette, G., 2005oo, 'Vernal Pools,' personal communication from Paquette (TRC Environmental Corporation, South Portland, Maine) to W. Vinikour et al. (Argonne National Laboratory, Argonne, Ill.), Oct. 14."

"Paquette, G., 2005pp, 'Bald Eagle Surveys,' personal communication from Paquette (TRC Environmental Corporation, South Portland, Maine) to J. Pell et al. (U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability, Washington, D.C.), Oct. 17."

"Raddant, A.L., 2005, 'Comments on the Draft Environmental Impact Statement for the Bangor Hydro-Electric Company Northeast Reliability Interconnect,' personal communication from Raddant (Regional Environmental Officer, U.S. Department of the Interior, Office of Environmental Policy and Compliance, Boston, Mass.) to J. Pell (U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability, Washington, D.C.), Oct. 31."

Page D-28 (Table D-3, Appendix D):

The genus name for the wood turtle should be changed from "*Clemmys*" to "*Glyptemys*."

Page D-39 (Table D-4, Appendix D):

On page D-39, the distribution of the Sedge Wren within Maine should read: "Southern two-thirds of the State," and its distribution within the project area should read: "Documented in 2003 in Great Works Stream and in 2005 at Sunkhaze Meadows National Wildlife Refuge about 1.5 mi (2.4 km) and 2.8 mi (4.5 km) from the Modified Consolidated Corridors Route, respectively." The reason for the rarity of the Sedge Wren should be modified to read: "Low population size, declining population trend, and a population distributed at few discreet sites."

Page D-41 (Table D-4, Appendix D):

On page D-41, add "Bard (2005)" to the Sources.

Page D-42 (Section D.2, Appendix D):

The following reference should be added to Section D.2 (Appendix D):

"Bard, R., 2005, "Comments on the Draft Environmental Impact Statement for the Bangor Hydro-Electric Company Northeast Reliability Interconnect," personal communication from Bard (Assistant Regional Wildlife Biologist, Maine Department of Inland Fisheries and Wildlife, Jonesboro, Maine) to J. Pell (U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability, Washington, D.C.), Oct. 11.

Page F-13 (Section F.5.1, Appendix F):

The first full paragraph on page F-13 of Section F.5.1 should be replaced with the following paragraphs:

"The habitat requirements of bald eagles are met in many places along the proposed route in addition to the specific nest sites described above. Therefore, the applicant would perform aerial surveys after leaf fall, but before ROW clearing, in 2005, and again in the spring of 2006 and 2007 to identify any new bald eagle nests that might have become established within 0.25 mi

(0.4 km) of the ROW (Paquette 2005c). The surveys would include a low-altitude flight with at least one observer experienced in the identification of bald eagle nests. The 2005 survey would cover the proposed ROW width (Paquette 2005c). The 2006 and 2007 surveys, which would occur around the last week of April, would primarily cover the ROW plus an additional 0.25 mi (0.4 km) swath on each side of the NRI measured from the outside edges of the ROW (Raddant 2005).

The spring surveys would occur during the mud season when construction work does not take place (Paquette 2005c). The applicant would only conduct clearing operations following the 2005 survey if no eagle nests are found. If any new nests are identified, BHE would consult with the MDIFW and USFWS to determine appropriate mitigation for potential impacts, while DOE would reinitiate consultation with the USFWS. Other construction activities would not occur until after the spring surveys and not before BHE has consulted with the MDIFW and USFWS regarding the survey results (Paquette 2005c). If any new nests are identified following the spring surveys, BHE would consult with the MDIFW and USFWS to determine appropriate mitigation for potential impacts."

Page F-14 (Section F.5.1, Appendix F):

The third sentence of the third full paragraph of page F-14 of Section F.5.1 should read as follows: "Few mitigation measures directly related to the bald eagle (other than the aerial surveys previously mentioned to detect potential new nests) would be necessary because construction, connection, operation, and maintenance of the NRI would not occur close to State of Maine classified Essential Habitat for the bald eagle."

Page F-15 (Section F.5.1, Appendix F):

The following text should be deleted from the first full paragraph, first sentence of page F-15 of Section F.5.1: "and/or flappers."

Page F-15 (Section F.5.2, Appendix F):

The section number on page F-15 should be changed from "F.5-2" to "F.5.2."

Page F-15 (Section F.5.2, Appendix F):

The first, second, and fourth paragraphs of Section F.5.2 have been modified to incorporate the information provided in comments USFWS-13, USFWS-14, and USFWS-15. Please see the BA for these changes.

Page F-15 (Section F.5.2, Appendix F):

The start of the third sentence of the second paragraph of Section F.5.2 should be revised to read: "The NRI would have 37 crossings of waterbodies …" A table of Atlantic salmon Gulf of Maine DPS streams and rivers that would be crossed by the NRI has also been added to Section F.5.2. Please see the BA for this table.

Page F-16 (Section F.5.2, Appendix F):

Text discussing how the proposed project would affect the Atlantic salmon has been added to Section F.5.2. Please see the BA for this discussion.

Page F-17 (Section F.5.2, Appendix F):

A footnote has been added to the 6th bullet of the mitigation measures in Section F.5.2 explaining why the support structures would be located farther away from the Narraguagus and Machias Rivers. Please see the BA for this addition.

Page F-20 (Section F.7, Appendix F):

The following reference citations should be added:

"Paquette, G., 2005c, 'Bald Eagle Surveys,' personal communication from Paquette (TRC Environmental Corporation, South Portland, Maine) to J. Pell et al. (U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability, Washington, D.C.), Oct. 17."

"Paquette, G., 2005d, "Distinct Population Segment Waterbody Crossings," personal communication from Paquette (TRC Environmental Corporation, South Portland, Maine) to I. Hlohowskyj and K. Picel (Argonne National Laboratory, Argonne, Ill.), Oct. 30.

"Raddant, A.L., 2005, 'Comments on the Draft Environmental Impact Statement for the Bangor Hydro-Electric Company Northeast Reliability Interconnect,' personal communication from Raddant (Regional Environmental Officer, U.S. Department of the Interior, Office of Environmental Policy and Compliance, Boston, Mass.) to J. Pell (U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability, Washington, D.C.), Oct. 31."

Page H-4 (Appendix H):

The photograph shown in Figure H-1 should be replaced with that shown in Figure 3-1, and the photosimulation shown in Figure H-2 should be replaced with that shown in Figure 3-2.

FIGURE 3-1 Existing MEPCO 345-kV Transmission Line at the Route 1A Crossing near Brewer

FIGURE 3-2 Photosimulation of the NRI at the Route 1A Crossing near Brewer

Page 4-27 (Section 4.5.2.1.8):

The following species information should be added to Table 4.5-4:

TABLE 4.5-4 Potential Impacts on Special Status Species from ROW Establishment

Species	Alternative Route			
	Modified Consolidated Corridors	Consolidated Corridors	Previously Permitted (No Action)	MEPCO South
Invertebrates				
Brook floater *Alasmidonta varicosa*	No impact expected; preferred habitat (creeks and small rivers) would not be impacted.	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Ebony boghaunter *Williamsonia fletcheri*	ROW construction could potentially reduce bog habitat quality or quantity.	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Amphibians				
Four-toed salamander *Hemidactylium scutatum*	ROW construction could potentially alter or eliminate habitat (e.g., wet woodlands).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Northern leopard frog *Rana pipiens*	ROW may both provide favorable habitat (wet open fields and meadows) and alter or eliminate habitat (e.g., wet woods).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors

TABLE 4.5-4 (Cont.)

Species	Alternative Route: Modified Consolidated Corridors	Alternative Route: Consolidated Corridors	Alternative Route: Previously Permitted (No Action)	Alternative Route: MEPCO South
Reptiles				
Wood turtle *Glyptemys insculpta*	No impact expected; no net loss of preferred habitat (streams, fields, woods).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Birds				
Cooper's hawk *Accipiter cooperii*	ROW may provide suitable habitat (open fields near woods).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Northern goshawk *Accipiter gentilis*	ROW may decrease preferred habitat in areas not close to existing corridors (interiors of heavily wooded forests).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Short-eared owl *Asio flammeus*	ROW may provide suitable habitat (e.g., open grasslands).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Olive-sided flycatcher *Contopus cooperi*	ROW may provide suitable habitat (e.g., coniferous forests near edges and clearing).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Rusty blackbird *Euphagus carolinus*	ROW may provide localized suitable habitat (e.g., alder and willow thickets near streams).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors

TABLE 4.5-4 (Cont.)

Species	Alternative Route: Modified Consolidated Corridors	Alternative Route: Consolidated Corridors	Alternative Route: Previously Permitted (No Action)	Alternative Route: MEPCO South
Birds (Cont.)				
Least bittern *Ixobrychus exilis*	ROW may provide suitable habitat (e.g., marshes with dense vegetation).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Black-crowned night-heron *Nycticorax nycticorax*	No impact expected; no net loss of preferred habitat (varied aquatic and wetland habitats).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Eastern screech owl *Otus asio*	ROW construction may decrease breeding habitat (e.g., trees), while the ROW may provide suitable foraging habitat (e.g., open woodlands).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Vesper sparrow *Pooecetes gramineus*	ROW may provide suitable habitat (e.g., meadows, open uplands, cutover areas in forests).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Eastern meadowlark *Sturnella magna*	ROW may provide suitable habitat (e.g., grassy meadows and areas with widely scattered shrubs).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors

TABLE 4.5-4 (Cont.)

Species	Alternative Route: Modified Consolidated Corridors	Alternative Route: Consolidated Corridors	Alternative Route: Previously Permitted (No Action)	Alternative Route: MEPCO South
Mammals				
Big brown bat *Eptesicus fuscus*	ROW construction could potentially eliminate habitat (e.g., hollow trees in wooded areas).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Hoary bat *Lasiurus cinereus*	ROW construction could potentially eliminate roosting habitat (e.g., trees).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Silver-haired bat *Lasionycteris noctivagans*	ROW construction could potentially alter or eliminate habitat (e.g., forested areas near streams).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Red bat *Lasiurus borealis*	ROW construction may eliminate roosting habitat (trees), while the ROW may increase foraging habitat (e.g., forest edges).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Little brown bat *Myotis lucifugus*	ROW construction may eliminate roosting habitat (trees).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors
Long-tailed shrew *Sorex dispar*	ROW construction may alter or eliminate preferred habitat (e.g., forests).	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors	Same as Modified Consolidated Corridors

Page D-30 (Table D-4, Appendix D):

The following species information should be added to Table D-4 (Appendix D):

TABLE D-4 Special Status Species That Could Occur within the Project Area

Species	Federal Status	State Status	Distribution within Maine and the Project Area	Habitat Information and Reason for Rarity
Invertebrates				
Brook floater (*Alasmidonta varicose*)	–	SC	Eastern two-thirds of the State. Known occurrence in the Machias River in the vicinity of the crossing of the Modified Consolidated Corridors Route.	Riffles and sandy shoals in creeks and small rivers. Populations throughout range impacted by reduced water quality such as eutrophication and siltation.
Ebony boghaunter (*Williamsonia fletcheri*)	–	SC	Southern two-thirds of the State. Documented occurrence within 0.6 mi (1 km) of the Modified Consolidated Corridors Route in Baileyville.	Bogs and fens, especially quaking sphagnum bogs. Populations potentially affected by habitat degradation and loss from harvesting of peat moss and fuel peat, and cranberry farming; pollution from toxics; and water-level alterations.
Amphibians				
Four-toed salamander (*Hemidactylium scutatum*)	–	SC	Southwestern and central/southcentral portions of the State. Uncommon to rare.	Wet woodlands (preferably with sphagnum moss), shallow woodland pools, tamarack bogs. Primary potential threat is loss/degradation of habitat.

TABLE D-4 (Cont.)

Species	Federal Status	State Status	Distribution within Maine and the Project Area	Habitat Information and Reason for Rarity
Amphibians (Cont.)				
Northern leopard frog (*Rana pipiens*)	–	SC	Found throughout the State. Common.	Wet open meadows and fields and wet woods during summer months. Populations have declined in some areas due to habitat loss and degradation, overexploitation, interactions with non-native species, and unknown causes; the overall range, however, remains essentially undiminished.
Reptiles				
Wood turtle (*Glyptemys insculpta*)	–	SC	Found throughout the State. Infrequent to common.	Slow-moving meandering streams with sandy bottoms and overhanging alders; fields, woods, and roadsides in summer. Declining throughout its range (northeastern U.S. and adjacent Canada); populations seriously impacted by illegal collection and by heavy recreation use of occupied habitats.
Birds				
Least bittern (*Ixobrychus exilis*)	–	SC	Found in southern portion of the State. Uncommon to rare.	Wetlands, preferably with tall vegetation. Populations declining in many parts of North American range due to draining, filling, and degradation of marshes and probably by environmental contaminants.
Black-crowned night heron (*Nycticorax nycticorax*)	–	SC	Found in southern portion of the State. Rare.	Varied aquatic and wetland habitats. Has declined in some areas of its North American range due to disturbance, degradation, and/or destruction of nesting and foraging areas.

TABLE D-4 (Cont.)

Species	Federal Status	State Status	Distribution within Maine and the Project Area	Habitat Information and Reason for Rarity
Birds (Cont.)				
Cooper's hawk (*Accipiter cooperii*)	–	SC	Breeding birds found throughout the State. Rare.	Deciduous or mixed woodlands that are dense or open, scattered woodlands interrupted with open fields, floodplain forests, and wooded swamps. Overall North American population stable. Deforestation is a current threat and may become increasingly important; required habitat is under pressure for forest product harvest and development.
Northern goshawk (*Accipiter gentilis*)	–	SC	Breeding birds found throughout the State; present year-round in southern half of the State. Rare to uncommon.	Interiors of remote, heavily wooded coniferous and mixed forests. Habitat loss or degradation from timber harvest is the principal threat to breeding populations.
Eastern screech owl (*Otus asio*)	–	SC	Present year-round in southern half of the State. Rare.	Shade trees in towns, orchards, small woodlots, open woodlands; requires cavities in trees. Population declines observed in some portions of North American range attributed to conversion of woods to residential areas and increased habitat fragmentation.
Short-eared owl (*Asio flammeus*)	–	SC	Breeding birds in eastern half of the State; overwintering birds in the southeastern portion of the State. Uncommon.	Open grasslands, plains, marshes, dunes; requires extensive open grasslands with abundant rodents. Populations have declined over most of their former North American range due to habitat loss.

TABLE D-4 (Cont.)

Species	Federal Status	State Status	Distribution within Maine and the Project Area	Habitat Information and Reason for Rarity
Birds (Cont.)				
Olive-sided flycatcher (*Contopus cooperi*)	–	SC	Breeding birds throughout all but extreme southeastern portion of the State. Uncommon to rare.	Coniferous (spruce) forest near edges and clearings; often along wooded streams and borders of bogs; burned-over areas with a few dead trees for perching. Large rangewide decline (68% between 1966 and 2000) across North America; causes of decline not known.
Rusty blackbird (*Euphagus carolinus*)	–	SC	Breeding birds throughout upper two-thirds of the State. Uncommon to common.	Swamps, tree-bordered marshes, beaver ponds, bogs, and stream borders with alder and willow thickets; rarely in fields. Large (90%) rangewide decline over last 30 years; destruction of wooded wetlands on breeding and wintering grounds and acid precipitation have been suggested as causes for observed decline.
Eastern meadowlark (*Sturnella magna*)	–	SC	Breeding birds throughout the State; present year-round in southern half of the State. Uncommon.	Open farmlands, especially with pastures, hayfields, and grassy meadows; may use areas with widely scattered shrubs and may favor moist lowland. Populations declining across range, with highest rates of decline observed in the Northeast. Decline is generally attributed to loss of nesting habitat due to changes in land use (conversion of grassland into suburbs).

TABLE D-4 (Cont.)

Species	Federal Status	State Status	Distribution within Maine and the Project Area	Habitat Information and Reason for Rarity
Birds (Cont.)				
Vesper sparrow (*Pooecetes gramineus*)	–	SC	Breeding birds found throughout the State. Uncommon.	Short-grass meadows, pastures, hayfields, cultivated grain fields, dry open uplands, burned and cutover areas in forests, country roadsides. Major regional decline in eastern North America, due in part to reduced quality or availability of grasslands resulting from changing agricultural practices.
Mammals				
Long-tailed shrew (*Sorex dispar*)	–	SC	Found in the west-central and north-central portions of the State. Rare.	Cold, deep coniferous forests, typically near moss-covered rocks and logs or woody talus slopes; also in deciduous or mixed forests. Populations may be more abundant than thought due to difficulty of sampling occupied habitat; local populations may incur habitat loss under some types of land development.
Little brown bat (*Myotis lucifugus*)	–	SC	Found throughout the State. Common.	Males roost in valleys near streams and marshes; female roost sites include hollow trees. Widespread throughout its range and has adapted well to using human structures for resting and nursery sites. Maine population stable, but hibernation sites and hibernators sensitive to human disturbance.

TABLE D-4 (Cont.)

Species	Federal Status	State Status	Distribution within Maine and the Project Area	Habitat Information and Reason for Rarity
Mammals (Cont.)				
Big brown bat (*Eptesicus fuscus*)	–	SC	Found throughout the State. Common.	Hollow trees in wooded areas. Widespread throughout U.S. range; regularly uses man-made structures for nesting and overwintering. Maine population stable, but hibernation and nursery sites and individuals in these sites sensitive to human disturbance.
Silver-haired bat (*Lasionycteris noctivagans*)	–	SC	Found throughout the State. Rare to uncommon.	Forested areas near lakes and streams; roosts in foliage of trees, tree cavities, and under loose bark. Maine status unknown, although hibernation sites and hibernators sensitive to human disturbance.
Red bat (*Lasiurus borealis*)	–	SC	Found throughout the State. Rare to uncommon.	Roosts in trees in wooded areas; most numerous along fence rows or forest edges. Maine status unknown.
Hoary bat (*Lasiurus cinerus*)	–	SC	Found throughout the State. Rare.	Roosts in trees in wooded areas; prefers coniferous forests but also occurs in deciduous woods and woodland edges, hedgerows, and trees in city parks. Maine status unknown.